



# Extension Gardener

NC STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION

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Empowering gardeners. Providing garden solutions.

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## Gardening Across the Carolinas

North Carolina's 100 counties cover four USDA hardiness zones and span the coastal plain, sandhills, piedmont, foothills, and mountains. Although the exact borders of these areas are often vague, you probably know exactly which label applies to you and your garden. Although all the regions of North Carolina boast long growing seasons with ample time for producing many wonderful crops and plants, there are distinct regional differences in what can be grown and the methods used to grow them.

Soil challenges vary across the state from nutrient-poor, droughty sand in the east to heavy, poorly drained clay in the west. Climate and soil differences across the state impact which plants can be grown, making it important to choose varieties suited to your region, including lawn grasses. Cool-season grasses, including fescue and bluegrass, are grown in the mountains, foothills, and western piedmont. These grasses are best planted in the fall and should be fertilized in the fall and winter. Warm-season grasses like bermudagrass, zoysia, centipede, and St. Augustine are grown in the eastern half of the state. These varieties are planted and fertilized in spring and summer.

In addition to having different planting times, cool- and warm-season grasses are susceptible to different pests. The warm-season lawns of the eastern half of the state often struggle with ground pearl, nematodes, and large patch, while cool-season

lawns in the west may be plagued by white grubs and brown patch.

Many vegetable and fruit crops grow across the state, but crops grown in the east can be started earlier and experience a longer growing season than those in the west. While most tender crops must be harvested by mid-October in the west, gardens in eastern North Carolina can produce for a month or more, with later frost dates allowing more fall gardening time. Vegetable harvests in the eastern half of the state often experience a lull in the extreme heat of July and August, while crops in the slightly cooler western regions keep producing all summer.

Plant varieties must be adjusted for the part of the state in which they are being grown. For example, although blueberries can be grown all over North Carolina, mountain gardeners need hardy highbush varieties, while coastal plain gardeners will have better success with rabbiteye types. It definitely pays to research the best varieties for your region.

Christmas trees are another crop with distinct regional differences. Able to grow in the high elevations of western North Carolina, Fraser Fir is king, while pines are the Christmas tree crop of the east.

No matter where your home garden is located, issues exist. Consult your local Extension office to learn more about local gardening challenges and which plants will thrive in your regions.

— Donna Teasley



USDA Agricultural Research Service



JC Raulston Arboretum



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## Extension Showcase

### Planting to Make a Positive Difference

Set back among the trees at the Brunswick County Government Complex are a large, commercial-size greenhouse, misting beds, and a plant collection that could easily operate as a successful greenhouse business. The Brunswick County Master Gardener volunteers use these facilities to grow plants for their upcoming plant sales as well as to store educational plant material for plant identification.

Brunswick County also uses this facility to support a restitution program that was put in place to combat juvenile crime, help ensure public safety, and help youth from diverse and challenging backgrounds to become good citizens.

When children and teens ages 7 through 17 are convicted of a crime, they are enrolled in the county restitution program as part of their sentencing. Each Saturday throughout the year, these youths meet with a staff member and a group of Master Gardener volunteers to prune, pinch, plant, water, weed, pot up, and propagate houseplants, tropicals, annuals, and perennials. Volunteers monitor and work with these young people, teaching them skills in greenhouse management and pest identification. Through this program, participants are able to nurture plants and develop potential career skills while they pay their debt to society.

— Susan Brown

## Smart Gardening — Mulch makes gardens happy

Mulch is a marvelous addition to planting areas. Gardeners rely on mulch to suppress weeds and make garden beds look tidy. But mulch offers many additional benefits. It conserves moisture, keeps soil cooler, and reduces plant diseases. Over time, proper mulching builds better soil by adding organic matter, reducing compaction, and preventing erosion.

Many types of mulch are available. Popular options include pine straw, pine bark, and hardwood bark. Pine straw is easy to

transport, attractive, and stays in place fairly well. Although many people worry that pine straw will acidify their soil, it has little effect on soil pH. Pine bark mulches come in different sizes, from large nuggets to small chips. The drawback

to pine-bark nugget mulch is its tendency to float, so don't use it where water flows or ponds. Shredded hardwood mulch holds together well, making it a good choice in wet or windy locations.



Aim for three to four inches of organic mulch around trees and shrubs—too much mulch can reduce the amount of water that reaches the soil. If depths are adequate but mulch looks weathered, rake it to loosen the surface and freshen its appearance.

Apply mulch evenly over the plant's entire root system. For trees and shrubs, this means out to the edge of the canopy. Keeping mulch away from the trunk of trees and shrubs helps prevent insect and disease problems. In landscape beds,

mulch the entire bed evenly.

Two to three inches of mulch will suppress weeds in most vegetable gardens. Shredded leaves, clean straw, compost, and shredded bark are all good options for vegetable gardens.

Mulch can be applied to vegetable gardens any time, but the best time is late spring after the soil has warmed. Applying mulch in early spring will delay soil warming and possibly plant growth.

— Lisa Rayburn

## Food Production — Growing radish

The genus for radish, *Raphanus*, is derived from the Greek word raphanos meaning "easily grown." One of the easiest of all the vegetables to grow, radishes mature in as few as 30 days after planting.

Most of us are familiar with the round red or red-and-white radish that is popular on salads, but there are several other varieties. Some types of radishes have roots like carrots, and several varieties grow large and can be stored during the winter much like beets and turnips.

Some of the more popular varieties in the home vegetable garden include Cherry Belle, Cherry Beauty, Champion, Early Scarlet Globe, Red Boy, and Sparkler. A popular white carrot-root type is White Icicle. A fun variety to add to the children's garden is Easter Egg, which produces a mixture of five or six different root colors. Larger radish varieties for storage include

April Cross, Everest, Omny, Long Black Spanish, and Round Black Spanish.

Radishes should be planted in a well-prepared seedbed that is well drained but moist. Plant seeds about 2 to 4 inches apart, and keep radishes well watered. Plants stressed from heat or drought produce hot, tough, pithy roots. The best-quality radishes are produced when the growing temperatures are between 50°F and 65°F.

Seedlings can be started as early as February 15, with plantings continuing every two weeks until May or June for spring crops. Begin again August 1 through September 15 for fall crops. Bury the seeds ½ -inch deep directly into the seedbed. Keep the soil moist until harvest. The small garden-variety radishes take as little as 28 days to reach maturity, while larger storage radishes may take up to 90 days to mature.

— Shawn Banks

## Pest Alert — Azalea lace bug

**A**zalea lace bug is the most common insect azalea pest, found throughout North Carolina. This small insect feeds on azalea leaves by piercing the leaf tissue and sucking out the green sap inside. Damaged leaves turn a pale yellow or white on top. Upon inspection, gardeners will find several small brown spots on the underside of injured leaves. Severely damaged leaves may drop from the plant prematurely.

Though azalea lace bug damage is common, the good news is that it's mainly cosmetic. Whether or not to control

the pest depends on how tolerant you are of the injury symptoms. If azaleas are planted in areas where it is important for them to look their best, spraying with acephate or insecticidal soap in early spring when the insects are active will reduce damage. Be sure to target the spray

toward the underside of leaves, where the insects are found. The systemic insecticide imidacloprid is another option that provides season-long control. Planting azaleas in partial shade in a diverse landscape will also help reduce lace bug populations.

— Matt Stevens



Tracy Wooten, University of Delaware, Bugwood.org

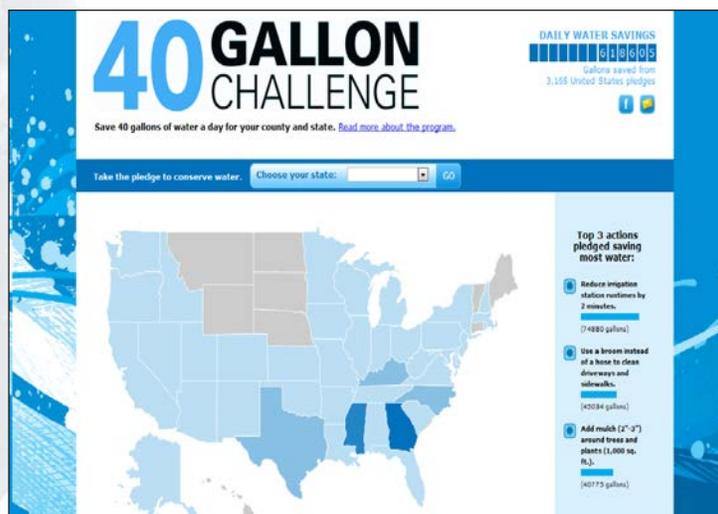
## Environmental Stewardship — 40-gallon challenge

**W**ith summer just around the corner, water conservation should be on the minds of all North Carolina residents. Educate yourself on how to use water more efficiently, and take an active role by signing up for the 40 Gallon Challenge.

To be part of the Challenge, visit [www.40Gallon-Challenge.org](http://www.40Gallon-Challenge.org) and choose your state and county from the drop-down menu. Once you have entered your location, you will receive a pledge card that outlines a series of water-saving techniques along with the amount of water you will save by implementing each practice. Pledging to save at least 40 gallons per day for 30 days adds up to 1,200 gallons saved each month. By following water-saving tips,

participants not only conserve water resources but also save money on their water bills. Each practice put into action helps stretch local water supplies a little further into the future. Don't wait! Take action; pledge today.

— Karen Blaedow



# Tips & Tasks

## How to Calibrate a Rotary Spreader

A rotary spreader is a piece of equipment used to apply lime, fertilizer, grass seeds, and pesticides. Because each of these materials should be applied at a specific rate, spreaders must be calibrated regularly. There are two common methods gardeners may use to calibrate their spreaders.

For the “Sweep and Weigh” method, the operator pushes the spreader over a 10-ft-by-10-ft tarp, then collects and weighs the material from the tarp. The weight of collected material is multiplied by 10 to find the rate to apply over 1,000 square feet

“Weigh Before and After” is another method. The operator measures the labeled rate per 1,000 square feet, then spreads the material over a 1,000-square-foot course. Example: A spreader that has an effective swath of 8 feet will need to travel a distance of 125 feet to cover 1,000 square feet ( $1,000 / 8 = 125$ ). After the course has been traveled, the remaining material is measured and subtracted from the beginning weight to get the rate applied. Note: Do not use this method repeatedly over the same area.

— Jacob Searcy



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## Helping You Grow

### Extension Gardener Now on Social Media

You can now receive timely information from *Extension Gardener* throughout the year by following us on our blog or on Twitter and being our friend on Facebook. We have statewide sites where you can find information relevant to all North Carolina gardeners. We've also developed regional sites with information specific to the region of the state where you live. Visit our blog at <http://ncextensiongardener.blogspot.com>, where you'll find links to the regional blogs. Follow us on Twitter at @NCExt-Gardener, and be our friend on Facebook at NC Extension Gardener. From the statewide Twitter and Facebook sites, you can find links to the regional pages. Join us on the Web!

— Kelly Groves

## Showstopper — Carolina jessamine

**B**orn in the South, Carolina jessamine is a terrific native vine for Carolina landscapes. Admired for its sweetly scented, canary-yellow flowers, this vine really puts on a show from February to April. The golden, trumpet-shaped, 1½-inch-long blooms are borne in small but prolific clusters throughout its narrow, glossy, evergreen foliage. Carolina jessamine can be trained to climb up arbors or trellises and is often found in wooded areas growing on tree trunks. This moderately vigorous vine generally takes three to four growing seasons to cover an average-sized arbor, and it can climb to 20 feet. Occasionally, older jessamine vines become top heavy or sparse near the bottom. This can be remedied by pruning the vines back hard soon after they finish flowering. Carolina jessamine is the state flower of South Carolina and is winter hardy from zones 7 to 9.

— John Vining

## Edibles — Potatoes

**P**otatoes are one of the most consumed vegetables in the U.S. They taste great, but they can be boring to look at. If you are tired of the same old white brown-skinned or light yellow-fleshed potatoes, then consider adding more color to your potato palette by growing different kinds. Potato varieties with skin and flesh colors in shades of blue, gold, pink, purple, red, and yellow are available. Plant potatoes between February 1 and April 15 in North Carolina. For each one-inch seed piece, prepare a loose planting hill. Make sure each seed contains at least one eye. Plant five inches deep and ten inches apart when soil is at least 400F, water well, and watch for Colorado potato beetles, which can be handpicked and destroyed. Potatoes will be ready to dig and enjoy in 100 to 120 days from planting.

— Danny Lauderdale

## Sustainability — Herbicide injury to vegetables

**S**ome gardeners have recently experienced damage to their vegetable plants from residual herbicides in manure, straw, or hay. The herbicides of concern contain picloram, aminopyralid, or clopyralid as an active ingredient. These herbicides are used on pastures, hay, some other crops, and lawns to kill broadleaf weeds. They're useful for their intended purpose but are unusually persistent in hay and manure.

These herbicides can enter gardens when a gardener amends the soil with fresh or composted manure from an animal that has eaten grass or hay treated with one of these herbicides. Alternatively, someone

may use treated hay or straw as mulch or may try to grow vegetables on land where one of the herbicides has been applied. Treated grass clippings from non-residential properties could cause problems as well. Symptoms of injury to vegetables and other broadleaf plants include curling of plant leaves and stems—and death in highly sensitive crops such as beans and tomatoes.

If you're using fresh or composted manure as a soil amendment, ask what was applied to the hay or pasture grass that the animals have eaten. Likewise, if you're a gardener using hay or straw as mulch, ask the supplier what herbicides were used on

the crop. Do not use hay or manure from animals that have eaten hay that was treated with herbicides containing picloram, aminopyralid, and clopyralid. Trade names for these products include Confront, Curtail, ForeFront, Grazon, GrazonNext, Lontrel, Milestone, Millennium Ultra 2, Redeem, Surmount, and Stinger.

More information can be found in the publication "Herbicide Carryover in Hay, Manure, Compost, and Grass Clippings" available online at [http://www.ces.ncsu.edu/fletcher/programs/ncorganic/special-pubs/herbicide\\_carryover.pdf](http://www.ces.ncsu.edu/fletcher/programs/ncorganic/special-pubs/herbicide_carryover.pdf).

— Mary Helen Ferguson



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